

ART. XX.—*Note on Perforated Rocks from West
Australia.*

By E. J. DUNN, F.G.S.

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In 1893, when at Bayley's Reward Mine, near Coolgardie, the manner in which a decomposed steatitic rock at the surface was perforated attracted my attention and a specimen was secured. This rock is burrowed and tunnelled through and through in a manner greatly resembling earth tunnelled by worms. Cross sections of these tunnels are circular and about $\frac{1}{4}$ inch in diameter. These perforations were only observed at the surface in an open quarry.

Early in this year, when visiting the Vale of Coolgardie Mine, seven miles north of Coolgardie, the decomposed granitic rock which here encloses the quartz reefs was found to be much perforated at the surface. Still more remarkable, at the 80 feet level on the underlay of the lode, a face was exposed along the course of a joint parallel to and a few inches from the reef and on the hanging wall; this face was a network of burrows. Red surface soil was present in all these burrows. At the surface the general mass of the soft granite appears to have been perforated, but at the 80 feet level the tunnels appear to have been confined to one particular joint on the hanging wall of the reef. Possibly this joint permitted the moisture after rains to sink down deeply and these persevering little miners followed in search of water; or else this joint may have been chosen as the easiest ground to mine in.

From the abundance of the burrows at the 80 feet level, it is highly probable that they may extend quite down to the 100 feet level; this will be disclosed as mining proceeds.

Roots of trees (Eucalypts are growing on the surface) follow these burrows to the 80 feet level. In some of the mines tree roots

have been observed to a depth of 150 feet vertically from the surface in West Australia.

The diameter of the perforations at the Vale of Coolgardie Mine ranges from $\frac{1}{8}$ to $\frac{1}{2}$ inch. The tunnels are very tortuous and branching.

At the Hill End Mine near Broad Arrow, at a depth of 70 feet vertically from the surface, the country rock in which the auriferous quartz reef runs resembles that at Bayley's Reward Mine in the quarry. It is also well tunnelled; there is no joint here in the rocks as at the Vale of Coolgardie Mine.

Whether these very remarkable perforations are the work of worms, larvae or flies is quite uncertain, but by calling attention to these curious "deep sinkings," miners may become interested and so secure examples of the pioneer miners that have executed so much work before the gold miner reached Western Australia.

It is not known if these burrows are still being extended or not, nothing to indicate very recent work was observed.